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U.S. Department of Transportation

General Counsel

400 Seventh St., S.W.
Washington, D.C. 20590

December 22, 1997

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Mr. William F. Caton
Office of the Secretary
Federal Communications Commission
1919 M Street, N.W.
Washington, D.C. 20554

Re: WT Docket No. 96-86

Dear Mr. Secretary:

The United States Department of Transportation ("DOT" or "Department") is the federal agency with primary responsibility for the advancement of safety in all aspects of transportation nationwide. We accordingly appreciate the opportunity to comment to the Federal Communications Commission ("FCC" or "Commission") on the reuse of spectrum (746-806 Mhz) recently reallocated for public safety and other purposes. We support the Commission's efforts to find appropriate spectrum to meet public safety interoperability requirements and other needs. However, we are concerned about potential second harmonic interference from certain upper portions of that band with the frequencies used by the Global Positioning System ("GPS") and the Russian Global Navigation and Surveillance System ("GLONASS"), both systems within the 1559-1610 MHz band[1]. GPS, in particular, is a critical system to our Nation's well-being. As the lead agency within the U.S. Government for all federal civil GPS matters (as directed by the Presidential Decision Directive ("PDD"), signed by President Clinton in March, 1996)[2], DOT submits that appropriate steps must be taken to avoid interference with this and other important services in the 1559-1610 MHz band.

GPS provides precise timing and positioning capability. That capability has been embraced by all parts of the U.S. economy. Not only is GPS becoming the basis for air, marine and land navigation and transportation, it also is of great importance to industry, science, engineering, recreation and other sectors for a variety of diverse applications. The uses beyond transportation cover law enforcement, telecommunications, power distribution, precision farming, surveying, deformation monitoring, auto industry sale of GPS-guidance systems, and a multitude of others. Of particular importance to the Commission, perhaps, is that the telecommunications industry has become dependent upon timing provided by GPS for network synchronization. GPS is embedded into the civil infrastructure to the extent that it is effectively a utility upon which much of the U.S. economy depends, and similar trends are occurring internationally. The successful promotion of GPS as an international standard for positioning

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[1] GPS and GLONASS are two critical systems that are housed within the AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-Earth) band that ranges from 1559-1610 MHz.

[2] See Enclosure.

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and timing is an integral part of the policy direction laid out by the aforementioned PDD.

The current service operational in the 746-806 MHz band is television broadcast on channels 60-69. That service has not caused interference with GPS, since the suppression of out-of-band emissions by analog television stations is sufficient to avoid this type of interference. We note that the level to which the broadcasters suppress these emissions far exceeds what is required by the FCC rules for analog television broadcasts, but broadcasters do so in order to provide a clear picture to their viewers. As the Commission observed in a related proceeding (ET Docket No. 97-157), however, there is potential for interference with GPS and GLONASS from systems located within the upper end of the 746-806 MHz band at issue in the instant proceeding.

To avoid this potentially problematic situation, we strongly encourage the FCC to set technical standards sensitive to the potential impact on GPS and other systems in the 1559-1610 MHz band. Space-based systems, such as GPS and GLONASS, have relatively low power signal levels as compared to terrestrial based systems. It is critical to establish appropriate technical rules for new services entering the 746-806 MHz band so that the systems within the 1559-1610 MHz band are protected. Moreover, it is important that the standards established by the Commission be effectively implemented and enforced because of the sensitivity and importance of services in the 1559-1610 MHz band.

The requirement to protect the GPS system extends to the Russian GLONASS system, as well. In setting domestic policy, the Commission should acknowledge international agreements of the United States and the potential international effects of decisions made regarding spectrum. Although the United States enjoys, as does any sovereign nation, the right to manage domestic spectrum to best meet its own needs, domestic spectrum policy is not separable from international spectrum policy and regulation. If the U.S. does not provide a level of protection for GLONASS domestically, we risk disregard for U.S. interests when we are engaged in international discussions regarding protection of GPS or other systems important to the U.S. Recent experience at the World Radio Conference ("WRC") clearly illustrated that U.S. needs and requirements are not, in and of themselves, sufficient to protect vital U.S. systems such as GPS.[3]

We stand ready to work with the Commission and others on this important matter.

Respectfully submitted,

ROSALIND A. KNAPP
Deputy General Counsel

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[3] The WRC was held in Geneva, Switzerland, from late October through November, 1997. The Mobile Satellite System ("MSS") community sought to reallocate the lower end of the 1559-1610 MHz band to allow MSS service. The GPS L1 frequency is centered at 1575.42 MHz, but operates over its internationally registered range of 1563 - 1587 MHz.

THE WHITE HOUSE

Office of Science and Technology Policy
National Security Council

EMBARGOED FOR RELEASE ON
March 29, 1996

Contact: (202) 456-6020

FACT SHEET

U.S. GLOBAL POSITIONING SYSTEM POLICY

The President has approved a comprehensive national policy on the future management and use of the U.S. Global Positioning System (GPS) and related U.S. Government augmentations.

Background

The Global Positioning System (GPS) was designed as a dual-use system with the primary purpose of enhancing the effectiveness of U.S. and allied military forces. GPS provides a substantial military advantage and is now being integrated into virtually every facet of our military operations. GPS is also rapidly becoming an integral component of the emerging Global Information Infrastructure, with applications ranging from mapping and surveying to international air traffic management and global change research. The growing demand from military, civil, commercial, and scientific users has generated a U.S. commercial GPS equipment and service industry that leads the world. Augmentations to enhance basic GPS services could further expand these civil and commercial markets.

The "basic GPS" is defined as the constellation of satellites, the navigation payloads which produce the GPS signals, ground stations, data links, and associated command and control facilities which are operated and maintained by the Department of Defense; the "Standard Positioning Service" (SPS) as the civil and commercial service provided by the basic GPS; and "augmentations" as those systems based on the GPS that provide real-time accuracy greater than the SPS.

This policy presents a strategic vision for the future management and use of GPS, addressing a broad range of military, civil, commercial, and scientific interests, both national and international.

Policy Goals

In the management and use of GPS, we seek to support and enhance our economic competitiveness and productivity while protecting U.S. national security and foreign policy interests.

Our goals are to:

(1) Strengthen and maintain our national security.

(2) Encourage acceptance and integration of GPS into peaceful civil, commercial and scientific applications worldwide.

(3) Encourage private sector investment in and use of U.S. GPS technologies and services.

(4) Promote safety and efficiency in transportation and other fields.

(5) Promote international cooperation in using GPS for peaceful purposes.

(6) Advance U.S. scientific and technical capabilities.

Policy Guidelines

We will operate and manage GPS in accordance with the following guidelines:

(1) We will continue to provide the GPS Standard Positioning Service for peaceful civil, commercial and scientific use on a continuous, worldwide basis, free of direct user fees.

(2) It is our intention to discontinue the use of GPS Selective Availability (SA) within a decade in a manner that allows adequate time and resources for our military forces to prepare fully for operations without SA. To support such a decision, affected departments and agencies will submit recommendations in accordance with the reporting requirements outlined in this policy.

(3) The GPS and U.S. Government augmentations will remain responsive to the National Command Authorities.

(4) We will cooperate with other governments and international organizations to ensure an appropriate balance between the requirements of international civil, commercial and scientific users and international security interests.

(5) We will advocate the acceptance of GPS and U.S. Government augmentations as standards for international use.

(6) To the fullest extent feasible, we will purchase commercially available GPS products and services that meet U.S. Government requirements and will not conduct activities that preclude or deter commercial GPS activities, except for national security or public safety reasons.

(7) A permanent interagency GPS Executive Board, jointly chaired by the Departments of Defense and Transportation, will manage the GPS and U.S. Government augmentations. Other departments and agencies will participate as appropriate. The GPS Executive Board will consult with U.S. Government agencies, U.S. industries and foreign governments involved in navigation and positioning system research, development, operation, and use.

This policy will be implemented within the overall resource and policy guidance provided by the President.

Agency Roles and Responsibilities

The Department of Defense will:

(1) Continue to acquire, operate, and maintain the basic GPS.

(2) Maintain a Standard Positioning Service (as defined in the Federal Radionavigation Plan and the GPS Standard Positioning Service Signal Specification) that will be available on a continuous, worldwide basis.

(3) Maintain a Precise Positioning Service for use by the U.S. military and other authorized users.

(4) Cooperate with the Director of Central Intelligence, the Department of State and other appropriate departments and agencies to assess the national security implications of the use of GPS, its augmentations, and alternative satellite-based positioning and navigation systems.

(5) Develop measures to prevent the hostile use of GPS and its augmentations to ensure that the United States retains a military advantage without unduly disrupting or degrading civilian uses.

The Department of Transportation will:

(1) Serve as the lead agency within the U.S. Government for all Federal civil GPS matters.

(2) Develop and implement U.S. Government augmentations to the basic GPS for transportation applications.

(3) In cooperation with the Departments of Commerce, Defense and State, take the lead in promoting commercial applications of GPS technologies and the acceptance of GPS and U.S. Government augmentations as standards in domestic and international transportation systems.

(4) In cooperation with other departments and agencies, coordinate U.S. Government-provided GPS civil augmentation systems to minimize cost and duplication of effort.

The Department of State will:

(1) In cooperation with appropriate departments and agencies, consult with foreign governments and other international organizations to assess the feasibility of developing bilateral or multilateral guidelines on the provision and use of GPS services.

(2) Coordinate the interagency review of instructions to U.S. delegations to bilateral consultations and multilateral conferences related to the planning, operation, management, and use of GPS and related augmentation systems.

(3) Coordinate the interagency review of international agreements with foreign governments and international organizations concerning international use of GPS and related augmentation systems.

Reporting Requirements

Beginning in 2000, the President will make an annual determination on continued use of GPS Selective Availability. To support this determination, the Secretary of Defense, in cooperation with the Secretary of Transportation, the Director of Central Intelligence, and heads of other appropriate departments and agencies, shall provide an assessment and recommendation on continued SA use. This recommendation shall be provided to the President through the Assistant to the President for National Security Affairs and the Assistant to the President for Science and Technology.

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